

Principal Investigator (Last, First, Middle) Kehrl, Howard R.

#### BIOGRAPHICAL SKETCH

NAME	Howard R. Kehrl	POSITION TITLE	Medical Officer, Clinical Research Branch,
EDUCATION <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION		DEGREE	YEAR(s)
University Of Michigan., Ann Arbor, Mi.		B.S.	1972
University Of Michigan., Ann Arbor, Mi.		M.D.	1977

#### PROFESSIONAL EXPERIENCE

1977-1980      Resident, Department of Medicine, U. of Mich. Affiliated Hospitals, Ann Arbor, Mi.  
1980-1984      Pulmonary Fellow, Department of Internal Medicine, U. of N. Carolina, Chapel Hill, NC  
1980-1986      Clinical Instructor, Department of Internal Medicine, U. of N. Carolina, Chapel Hill, NC  
1984-            Medical Officer, Clinical Research Branch, Human Studies Division, USEPA  
1986-            Assistant Professor, Department of Internal Medicine, U. of N. Carolina, Chapel Hill, NC  
1989-1995      Chief, Physiology Section, Clinical Research Branch, Human Studies Division, USEPA

#### SELECTED AWARDS AND HONORS

1986    USEPA    Scientific and Technical Achievement Award  
1987    USEPA    Scientific and Technical Achievement Award  
1997    USEPA    Scientific and Technical Achievement Award  
1999    USEPA    Scientific and Technical Achievement Award

#### STUDY SECTIONS AND ADVISORY COMMITTEES:

Panel Member and Workgroup Co-Chair, "Experimental Approaches to Chemical Sensitivity," Environmental And Occupational Health Sciences Institute, Robert Wood Johnson Medical School, Princeton, New Jersey, 1995.  
Panel member, "Developing a Research Protocol for Individual Reporting Sensitivities to Multiple Chemicals," Environmental Health Investigations Branch, California Department of Health Services, Berkeley Cal., 1994.  
Planning Committee Member, "Workshop on the Persian Gulf Experience and Health," National Institute of Health, Bethesda, Maryland, 1994.  
Panel Member, "EPA, Yale, Aarhus Indoor Air Workshops", Sonderberg, Denmark, August 11-16, 1991.  
Panel Member, "Workshop to Develop Research Protocols for Multiple Chemical Hypersensitivity Syndrome", National Research Council, Irvine, California, 1991.

#### INVITED SCIENTIFIC PRESENTATIONS

Invited Speaker, "What are the Interactions Between Air Pollutants and Allergen," Environmental Protection Agency Workshop: Asthma: the regional Science Issues, Washington, D.C., 1999.  
Invited Speaker, "Effect of Ozone Exposure on Response to Inhaled Allergen Challenge in Allergic Asthmatics," Visiting Pulmonary Scholar Program, Duke University, Durham, North Carolina, 1997.  
Invited speaker, "Clinical Evaluation of Persons with Self-report of Chemical Sensitivity Recruited from the Local Community," Second Annual Aspen Environmental Medicine Conference, Allergy Research Institute, Aspen, Colorado, 1995.  
Invited Speaker, "Allergen Bronchoprovocation of Mild Allergic Asthmatics after 0.12 ppm Ozone Exposure," Visiting Pulmonary Scholar Program, Duke University, Durham, North Carolina, February, 1995.  
Invited Speaker, "Clinical Evaluation of Persons with Self-Report of Chemical Sensitivity," Environmental & Occupational Health Sciences Institute, Robert Wood Johnson Medical School, Piscataway, New Jersey, 1995.

Faculty Speaker, "Sick Building Syndrome," 18th Annual Internal Medicine Conference, University . . . . of N Carolina School of Medicine, Chapel Hill, N Carolina, 1994.

Faculty Speaker, "Environmental Illness - Concepts, Issues, and Policy Course," American College of Allergy and Immunology, Atlanta, Georgia, 1993.

Invited Speaker, "Multiple Chemical Sensitivities: Realities and Controversies," US-Dutch International Symposium on Comparative Risk Analysis and Priority Setting for Air Pollution Issues, Keystone, 1993.

## SELECTED PUBLICATIONS

- Kehrl, H.R., Peden D.B., Ball B.A., Folinsbee L.J., Horstman D. Increased specific airway reactivity of persons with mild allergic asthma following 7.6 hr. exposures to 0.16 ppm ozone. *J Allergy Clin Immunol*, 104:1198-1204, 1999.
- McDonnell, W.F., Stewart, P.W., Andreoni, S., Seal, E., Kehrl, H.R., Horstman, D.H., Folinsbee, L.F., Smith, M.V. Prediction of ozone-induced FEV<sub>1</sub> changes: effects of concentration, duration, and ventilation. *Am J Respir Crit Care Med*, 156:715-22, 1997.
- Ball BA, Folinsbee LJ, Peden DB, and Kehrl HR. Allergen Bronchoprovocation of patients with mild allergic asthma after ozone exposure. *J Allergy Clin Immunol*; 98:563-572, 1996
- Hazucha MJ, Madden M, Pape G, Becker S, Devlin R, Koren HS, Kehrl HR, and Bromberg PA. Effects of cyclo-oxygenase inhibition on ozone -induced respiratory inflammation and lung function changes. *Eur J Appl Physiol*; 73:17-27, 1996.
- Folinsbee LJ, Horstman DH, Kehrl HR, Harder S, Salaam, SA, and Ives PJ. Respiratory Responses to Repeated Prolonged Exposure to 0.12 ppm ozone. *Am J Respir Crit Care Med*; 149:98-105, 1994.
- Gerrity TR, Bennett WD, Kehrl HR, and DeWitt PJ. Mucociliary clearance of inhaled particles measured at two hours following ozone exposure. *J Appl Physiol*; 74:2984-89, 1993.
- McDonnell WF, Horstman DH, Folinsbee LJ, Kehrl HR, and O'Neil JJ. Respiratory responses to low level ozone exposure for 6.6 hours in exercising humans: A review of three clinical Studies. In: Tropospheric Ozone and the Environment. R.L. Berglund, D.R. Lawson, D.J. McKee, eds. Air and Waste Management Assoc., Pittsburg, pp. 52-58, 1991.
- McDonnell WF, Kehrl HR, Abdul-Salaam SA, Ives P, Folinsbee LJ, Devlin RB, O'Neil JJ and D. Horstman. Respiratory responses of humans exposed to low levels of ozone for 6.6 hours. *Arch Environ Health*; 46:145-150, 1991.
- Roger RJ, Horstman DH, McDonnell WF, Kehrl HR, Ives P, Seal E, Chapman R, and Massaro EJ. Pulmonary function, airway reactivity and respiratory symptom responses in asthmatics following repeated exercise in nitrogen dioxide. *Toxicol and Indust Health*; 6:155-171, 1990.
- Horstman DH, McDonnell WF, Kehrl HR, Devlin R, Abdul-Salaam S, Ives P, and Koren HS. Current USEPA research concerning more prolonged exposure (> 6-hr) of humans to near ambient ozone concentrations. In: Man and His Ecosystem, Vol. 1 (L.J. Brasser and W.C. Mulder, edit.), Elsevier Science Publishers B.V.: Amsterdam, pp. 1-6, 1989.
- Kehrl HR, Horstman DH, O'Neil JJ, Vincent L, Kowalsky R, McCartney W, and Bromberg PA. Ozone induced changes in respiratory epithelial permeability. In: Atmospheric ozone Research and Its Policy Implications (T. Schneider - et al., edit.) Elsevier Science Publishers B.V.: Amsterdam, pp. 343-354, 1989.
- Kehrl HR, Vincent L, Kowalsky R, Horstman DH, McCartney W, and Bromberg PA. Ozone exposure increases respiratory epithelial permeability in man. *Am Rev Respir Dis*; 135:1124-1128, 1987.
- Horstman, DH, Weinberg P, Kehrl HR, and Roger LJ. Pulmonary function changes for asthmatics performing exercise while exposed to combined sulfur dioxide and sulfuric acid. In: Aerosols: Effects, Controls and Regulations (S.D. Lee et al., edit). Lewis Publishers: Ann Arbor, MI. Chapter 51, pp. 703-709, 1986.
- Horstman DH, Roger LJ, Kehrl HR, and Hazucha MJ. Airway Sensitivity of Asthmatics to Sulfur Dioxide. *Toxic and Ind Health*; 2:289-298, 1986.
- Kehrl HR, Roger LJ, Hazucha MJ, and Horstman DH. Differing response of asthmatics to SO<sub>2</sub> exposure with continuous and intermittent exercise. *Am Rev Respir Dis* 135:350-355, 1985.
- Roger LJ, Kehrl HR, Hazucha MJ, and Horstman DH. Broncho-constriction in asthmatics exposed to sulfur dioxide during repeated exercise. *J Appl Physiol* 59:784-791, 1985.
- Kehrl, H.R., M.J. Hazucha, J.J. Solic, and P.A. Bromberg. Responses of subjects with chronic obstructive pulmonary disease after exposures to 0.3 ppm ozone. *Am Rev Respir Dis* 131:719-724, 1985.